Interfacial study of lipolysis inhibition by proteins.

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In this study, some proteins were investigated for their ability to inhibit lipolysis in emulsions (lipase was porcine pancreatic lipase (PPL)). Adsorption kinetics of those proteins at the air-water interface were also investigated using a Tracker ITConcept.

The main purpose of this work was to evaluate the relations existing between the adsorption kinetic of some proteins and lipolysis inhibition by those proteins.

Proteins used in this work were the following : SWP (a modified wheat protein), ß-lactoglobulin, ß-casein, EYP, EAP-P, PPt, BSA and heat denatured PPL. EYP et EAP-P are proteins from eggs (Belovo). PPt is a complex milk protein fraction : proteose-peptone fraction.

No correlation was found between the equilibrium superficial tension value of the studied proteins and their inhibitory power. However a positive correlation was found between the superficial tension value reached after 20 seconds and the lipolysis inhibitory power of the proteins.

The velocity of the proteins adsorption at the air-water interface seems to be very important for theirlipolysis inhibitory power.